

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for determining dynamic ~~movement~~ parameters of movement of ~~a material~~ an object in sports competitions or training, using recording ~~the~~ an object motion trajectory in an infrared spectral range, ~~characterized by~~ the method comprising:

recording, by an infrared camera operating in an infrared range of 3-12 μ m,
trajectories of infrared footmarks resulting from ~~the~~ an interaction of the object with a surrounding ~~objects~~ object or a surrounding environment;

recording and analyzing, by a computer operating according to corresponding
software, ~~the~~ dynamic of changes of ~~infrared radiation intensity on different parts of~~
~~the trajectory~~ the trajectories of the infrared footmarks of the object ~~motion;~~ and,
calculating ~~the~~ object movement parameters ~~therefrom~~.

2. (Currently amended) The method according to claim 1, ~~characterized~~
~~by further recording~~ wherein trajectories of the infrared footmarks are recorded in
different spectral ranges within the infrared range of 3-12 μ m.

3. (Currently amended) The method according to claim 1, ~~characterized~~ by further comprising recording trajectories of shadows resulting from ~~the~~ an interaction of the object with concentrated or distributed external infrared sources within the infrared range of 3-12 μ m.

4. (Currently amended) The method according to claim 1, ~~characterized~~ ~~in that~~ wherein in big tennis, ~~the~~ an area of ~~the~~ a ball contact with ~~the~~ a court and ~~the~~ a time moment of ~~the~~ ball impingement with ~~the~~ a court surface are determined using ~~the~~ break of the trajectories of the infrared footmarks.

5. (Currently amended) An apparatus for determining dynamic ~~movement~~ parameters of movement of ~~a material~~ an object in sports competitions or training, the apparatus comprising:

at least one infrared camera operating in an infrared range of 3-12 μ m; and
a computer; ~~and, characterized by further comprising~~
a mechanical oscillation receiver connected to the infrared camera and
intended to run and stop the infrared camera and the computer.

6. (Currently amended) The apparatus according to claim 5, ~~characterized by further comprising~~ an external light source.

7. (Currently amended) The apparatus according to claim ~~5~~ 6, ~~characterized in that~~ wherein the external light source is modulated by frequency or infrared radiation wavelengths of the infrared range of 3-12 μ m and is synchronized with the infrared ~~cameras~~ camera.

8. (Currently amended) The apparatus according to claim 5, ~~characterized in that~~ wherein the infrared ~~cameras~~ camera, operating in the infrared range of 3-12 μ m, has ~~have~~ a controlled time of fixing image.

9. (Currently amended) The apparatus according to claim 5, ~~characterized in that~~ wherein at least one infrared camera operating in the infrared range of 3-12 μ m comprises an appliance enabling its rotation and movement synchronized with the mechanical oscillation receiver.

10. (Currently amended) The apparatus according to claim 5, ~~characterized in that~~ wherein at least one infrared camera operating in the infrared range of 3-12 μ m comprises a system of optical filters for modifying ~~the~~ a spectral range of sensitivity of the infrared camera.

11. (Currently amended) A method of evaluating skill ~~and~~
~~development potential of a sportsman~~ sportsmen, comprising:

using a method for determining dynamic ~~movement~~ parameters of movement
of ~~a material~~ an object in sports competitions or training, using recording ~~the~~ an
object motion trajectory in an infrared spectral range, ~~characterized by the method~~
comprising recording, by an infrared camera operating in an infrared range of 3-12
μm, trajectories of infrared footmarks resulting from ~~the~~ an interaction of the object
with a surrounding ~~objects~~ object or a surrounding environment; recording and
analyzing, by a computer operating according to corresponding software, the
dynamic ~~of~~ changes of infrared radiation intensity on different parts of the
trajectory of ~~the~~ an object motion; and calculating ~~the~~ object movement parameters
~~therefrom and the apparatus as set forth in claim 5.~~